

Nicholas M. Caruso

POSTDOCTORAL ASSOCIATE

Department of Fish and Wildlife Conservation, Virginia Polytechnic Institute and State University, 106 Cheatham Hall, 310 West Campus Drive, Blacksburg, VA 24061

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Academic Appointments

2017 - Present
Postdoctoral Associate

Virginia Polytechnic
Institute and State
University

Education

University of Alabama

PH.D. IN BIOLOGY

- Dissertation: Range dynamics and range limits of a montane salamander

Tuscaloosa, Alabama

Aug. 2012 - Dec. 2017

University of Maryland

M.S. IN BIOLOGY

- Thesis: Environmental variables associated with population changes of plethodontid salamanders in the Great Smoky Mountains National Park, USA

College Park, Maryland

Aug. 2009 - May 2011

Saint Louis University

B.A. IN BIOLOGY

- Magna Cum Laude
- Certificate in Conservation

Saint Louis, Missouri

Aug. 2003 - May 2007

Publications

REFEREED JOURNAL PAPERS

1. Knouft, JH, NM Caruso, PJ Dupre, KR Anderson, DR Trumbo, and J Puccinelli (2011). Using fine-scale GIS data to assess the relationship between intra-annual environmental niche variability and population density in a local stream fish assemblage. *Methods in Ecology and Evolution* **2**(3), 303–311.
2. Caruso, NM and KR Lips (2013). Truly enigmatic declines in terrestrial salamander populations in Great Smoky Mountains National Park. *Diversity and Distributions* **19**(1), 38–48.
3. Caruso, NM, MW Sears, DC Adams, and KR Lips (2014). Widespread rapid reductions in body size of adult salamanders in response to climate change. *Global Change Biology* **20**(6), 1751–1759.
4. Muletz, C, NM Caruso, RC Fleischer, RW McDiarmid, and KR Lips (2014). Unexpected rarity of the pathogen *Batrachochytrium dendrobatidis* in Appalachian Plethodon salamanders: 1957–2011. *PLoS One* **9**(8), e103728.
5. Rissler, LJ, SI Duncan, and NM Caruso (2014). The relative importance of religion and education on university students' views of evolution in the Deep South and state science standards across the United States. *Evolution: Education and Outreach* **7**(24).
6. Caruso, NM (2016). Surface retreats used among four genera of terrestrial salamanders in the Great Smoky Mountains National Park. *Journal of Herpetology* **50**(1), 87–93.
7. Caruso, NM and LJ Rissler (2018). Demographic consequences of climate variation along an elevational gradient for a montane terrestrial salamander. *Population Ecology*.
8. Lima, JMT, NM Caruso, J Clugston, and KA Kainer (2018). Landscape change alters reproductive phenology and sex expression in *Attalea* palms (Arecaceae) of southwestern Amazonia. *Plant Ecology* **219**(10), 1225–1245.
9. Sheridan, JA, NM Caruso, JJ Apodaca, and LJ Rissler (2018). Shifts in frog size and phenology: Testing predictions of climate change on a widespread anuran using data from prior to rapid climate warming. *Ecology and Evolution* **8**(2), 1316–1327.
10. Smyth, KN, NM Caruso, CS Davies, TH Clutton-Brock, and CM Drea (2018). Social and endocrine correlates of immune function in meerkats: implications for the immunocompetence handicap hypothesis. *Royal Society open science* **5**(8), 180435.

NON-REFEREED PUBLICATIONS

1. Caruso, NM and D Rabaiotti (2017). *Does it Fart?* Quercus Publishing, London.
2. Caruso, NM and D Rabaiotti (2018). *True or Poo?* Quercus Publishing, London.

Awards and Achievements

AWARDS

2015	Outstanding Research by a Doctoral Student	University of Alabama
2015	Outstanding Teaching by a Graduate Student in Biological Sciences	University of Alabama
2015	E.E. Williams Grant	Herpetologists' League

FELLOWSHIPS

2015	Graduate Council Fellowship	University of Alabama
2014	E.O. Wilson Biodiversity Fellowship	University of Alabama
2013	Smithsonian Graduate Fellowship	Smithsonian Institution

Presentations

ACADEMIC CONFERENCES

1. Caruso, N and KR Lips (2009). From the tropics to the Appalachians: reconstructing the history of salamander population declines in The Great Smoky Mountains. *Integrated Research Challenges in Environmental Biology*.
2. Caruso, N and KR Lips (2010). Resurveying populations of plethodontid salamanders in The Great Smoky Mountains National Park. *Joint Meeting of Ichthyologists and Herpetologists*.
3. Caruso, NM, KR Lips, DC Adams, RW McDiarmid, and FR C (2012). Through the looking glass: widespread declines in body size in Appalachian plethodontid salamanders. *World Congress of Herpetology*.
4. Lips, KR, NM Caruso, CR Muletz, RW McDiarmid, and FR C (2012). Spatial, temporal and taxonomic variation in patterns of population declines in Appalachian plethodontid salamanders. *World Congress of Herpetology*.
5. Muletz, CR, RC Fleischer, RW McDiarmid, S Yarwood, NM Caruso, and KR Lips (2012). It's a small world: geographic, taxonomic and temporal variation in Plethodon salamanders' skin microbiome. *World Congress of Herpetology*.
6. Caruso, NM, MW Sears, DC Adams, and KR Lips (2013). Widespread declines in body size in Appalachian Plethodon salamanders. *Ecological Society of America*.
7. Caruso, NM and LJ Rissler (2014). Body size and growth in Plethodon: past and present. *Plethodontids*.
8. Caruso, NM and LJ Rissler (2014). Past and present: life history and population dynamics of Plethodon montanus. *Alabama Partners in Amphibian and Reptile Conservation*.
9. Caruso, NM, JJ Jacobs, and LJ Rissler (2016). Using a reciprocal transplant experiment to quantify the effects of the abiotic environment on montane salamander life history. *Joint Meeting of Ichthyologists and Herpetologists*.
10. Caruso, NM and LJ Rissler (2018). Effect of climate-driven demographic variation on population growth in Plethodon montanus. *Joint Meeting of Ichthyologists and Herpetologists*.

INVITED TALKS

1. Caruso, NM (2011). *Utilizing Historical Collection Data to Understand Enigmatic Plethodon Salamander Declines*. Ecological Economic Student Groups, University of Maryland, College Park, MD.
2. Caruso, NM (2018). *Beyond Blaming the Dog: The Science of Animal Farts*. Science on Tap, Blacksburg VA.
3. Caruso, NM (2018). *Does it Fart*. Summer Reading Club, Roanoke Public Library, Roanoke VA.

Outreach and Media

TV

Consultant on Does It Fart? A television show aired on CBC kids based on Does It Fart? (2018-Present) The Doctors (20 September 2018) Living Local in Virginia (23 October 2018)

RADIO

Animal Radio (27 October 2018) Science Friday (6 April 2018)

PODCASTS

DrunkSafari (3 August 2018) Inquiring Minds (13 April 2018) Brains On! (1 September 2017)

PRESS COVERAGE FOR PUBLISHED RESEARCH

29 October 2014	What affects acceptance of evolution?	<i>Pleiotropy</i>
25 March 2014	Shrinking of North American Salamanders Linked to Climate Change	<i>Nature World News</i>
26 March 2014	Salamanders Are Shrinking As Their Habitats Warm Up	<i>NBC News</i>
26 March 2014	Salamander shrinkage linked to climate change	<i>Nature</i>
25 March 2014	Salamanders shrinking as their mountain havens heat up	<i>Science Daily</i>
27 March 2014	Salamander shrinkage is the latest potential effect of climate change	<i>Salon</i>
27 March 2014	Climate Change Shrinks Salamanders	<i>National Geographic</i>

Teaching Experience

TEACHING ASSISTANT

2005-2007	General Chemistry	<i>Saint Louis University</i>
2006	General Ecology	<i>Saint Louis University</i>
2009-2011	Anatomy and Physiology	<i>University of Maryland</i>
2012-2013	General Biology	<i>University of Alabama</i>
2013-2017	Anatomy and Physiology	<i>University of Alabama</i>

Professional Memberships and Affiliations

Society for the Study of Amphibians and Reptiles
Herpetologists' League